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COMPUTATION CENTER
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

To: Computation Center Staff October 20, 1959

From: F. J. Corbató and M. Merwin

Subject: An Edit Program for BCD Tapes

Title: MI BCD ED

Purpose:

1. To avoid the necessity of manipulating the SAP-decks of large programs when making improvements or changes and thus avoid deck mishaps from either handling or alteration mistakes.

2. To keep exhibited and reversible all changes that have been made to a program.

Prescription for Use:

1. Write an input tape with card-to-tape device using master deck; terminate with an end-of-file. Similarly write an alter tape with alter deck.

2. Mount input tape (file protect) as logical 7, alter tape (file protect), as logical 8, output tape 1 as logical 4, output tape 2 as logical 6.

3. Load edit program with NYBOL1. If redundancy tape check or read/write check during edit program operation, hit reset button followed by start button to start over.

The Edit program produces an edited program on output tape 1 and selects the on-line card reader. If a SAP-call-card is present in the card reader, a normal assembly occurs of the edited program on output tape 1.

The alter deck consists of a series of ALT cards followed by corresponding replacement cards (up to the next ALT or end-of-file.) Thus to replace the cards with ID fields (cols. 73-80) SAP 12345 through SAP 12347 by a CLA L instruction, the cards required are:

```
ALT  SAP12345,SAP12347
CLA  L
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When an ALT card does not have a second ID field it is interpreted to mean "insert the following cards (up to the next ALT card or end-of-file) immediately after the card with the first ID field."

In operation the edit program first reads the input tape and writes output tape 1 making the alterations in the order in which they occur on the alter tape. If the end-of-the-input-tape is reached without exhausting the alter tape, output tape 1 is rewound and made the edit-input tape, output tape 2 is made the edit-output tape, and another editing pass is initiated. This process continues with reversal of the two output tape roles at each pass until either a pass is made without advancing the alter tape, in which case a diagnostic is given or normal termination occurs with an end-of-file on the edit-input tape and an exhausted alter tape. The edited program will be on output tape 1; (if necessary, output tape 2 is copied.) The edit program terminates with a load card sequence.

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